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APPENDIX VI

SOCIOMETRIC WORK WITH A BULGARIAN WOODCUTTING GROUP[1]

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In the late autumn, when all other farm work has been completed, the villagers of Dragalevtsy[2] turn their attention to the gathering of the winter's supply of wood. The scene of their activity is a wooded section of the mountainside, three or four miles from the village, determined in advance by a forester's decree. Most of them toil gladly, since all winter long they must continually feed the wood into the ever-devouring gullet of the sheet-iron stove standing in the center of the living room. No twig is too small to find its way there.

It would be wrong to imagine that the villagers were doing any lumbering, even on the simplest scale. Most of their activity centers around the task of cutting down brush as high as a man's head, or of felling trees so small that a pair of hands could include the trunk in its grasp.

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I. MEMBERSHIP OF GROUP. There are ten wood-gathering groups in the village. Before 1931 individual families went to the section of the forest opened up for the people of Dragalevtsy and took all the wood they could get in the time allowed. This system had two chief faults, according to Yurdan Chalukov, the assistant mayor at the time: in the first place, the members of the political party supporting the mayor learned beforehand at what time the forest would be opened to the villagers and stole the march on the others by going there on the day assigned, although the other villagers did not learn about the opening until two or three days later, by which time the best wood had been collected.

The second chief fault with this system was that families with more able-bodied workers gathered the most wood, although they paid perhaps less taxes than those who got less. In order to eliminate these evils, a new system which is peculiar to Dragalevtsy alone was inaugurated. The near-by villages, for instance, still use the older method of permitting each family to "grab while

[1] This article appeared in *Sociometry: A Journal of Interpersonal Relations*, II, October, 1939, pp. 58-68. Reprinted by permission.

[2] Dragalevtsy, a village of 1,669 inhabitants, located four miles from the outskirts of Sofia, Bulgaria's capital city. The peasants of that region are generally regarded as very conservative by educated Bulgarians.

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the grabbing is good." Now, the *Obshtina*[1] divides the village into ten groups; the part of the forest made available to the villagers is likewise divided into ten sections; each group thus has a limited section in which to work. The *Obshtina* usually divides the village according to neighborhoods, though sometimes one family from a larger neighborhood is assigned to the group of a smaller neighborhood in order to make the number of families average about thirty for each group. The only case of this kind in Group X, which we are studying, is that of Krustan Arnaudski, who lives across the river from the others.

The *Obshtina* lists the names of the family heads in making out its divisions; theoretically these family heads are supposed to go collectively to get the wood for their households. In other words, they are supposed to constitute the group. However, variations occur. Some of the family heads are too old or too busy or too lazy to go. In that case they do one of three things: (1) they send their married sons who live with them, these sons performing the work more capably than the older men could; (2) they hire village youths from other neighborhoods to go and gather the wood for them; or, (3) they send weaker members of their own family, such as younger boys, the older girls, wives, or—in the case of one lazy man—a mother.

Thus, in reality, the group of wood-gatherers varies from day to day as regards the actual personnel of those working in the forest. We might say that most of those working there are family heads or able-bodied married sons, though mixed with them are women, girls, and younger boys. Before sending a substitute the family head is supposed to get permission from the group leaders. The failure to do this results in many quarrels and, as one leader says, "makes a man quarrel with his best friend."

The reason why the presence of women and children is frowned upon lies not so much in the objection to women and children working, as it does to the fact that women and children cannot do as much work in a day as a man. Since all the cut wood is piled into thirty different piles, one for each family, and the piles later distributed by lot, those who work hard each day get no more wood than those who do less work or who send weaker substitutes.

The question arises as to the classification of this type of group. On the basis of admission to membership, we can conclude that it is chiefly involuntary since the family heads are assigned by the *Obshtina* and since the family head can order members of his family to replace him in case he does not care to go. Only in the case of outsiders gathering wood for pay does the group seem voluntary. The group is secondary as far as function is concerned, but partakes of certain primary group characteristics when we notice that the *Obshtina*

[1] *Obshtina*—used here in the sense of the local governmental unit under the direction of a mayor appointed from Sofia.

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usually divides the village up according to neighborhoods. Thus we have many persons accustomed to associate as neighbors interacting along economic rather than social lines.

II. DURATION OF GROUP. The group is temporary, since the *Obshtina* lists have varied from year to year. However, for thirty days the wood-gathering continues, halted in bad weather but energetically pursued in good weather, even on Sundays. During this period there is constant interaction between the members of the group, who get to know the working qualities of the others in an intimate way. The most exciting day of all is the day when the wood has been piled up, the piles numbered, and the family heads take their turn drawing lots for the piles. It is then that the whole family comes in the ox-cart to haul the wood home. There is joy as though a harvest were being gathered. Each family usually takes home from four to five ox-carts full of wood, most of which consists of branches or scrub-growth. After the wood is stacked in the yard, the group is ended; its existence is terminated by the completion of the job it set out to do.

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III. STRUCTURE OF GROUP (RELATIONSHIP). With thirty individuals, unequally divided as to ability or inclination to work, there must be some sort of leadership to keep the group functioning effectively. The nominal leaders are two men appointed by the *Obshtina*, one as superintendent and the other as his assistant. Leaders appointed by the *Obshtina* usually serve even though they profess an unwillingness to do so. Some members of Group X point out that those who do the most talking against the way the present leaders discharge their functions are themselves loath to accept the responsibility if it is offered to them. The leaders of Group X this year were Stoyanche Chalukov and his god-son (almost his equal in years) Yurdan Chalukov.

The leaders of all ten groups gather on an appointed day to visit the forest with the forest policeman, who shows them how the forest has been divided into ten sections. The leaders then draw lots to see which section will fall to their particular groups. On the day of the visit this fall neither leader of Group X went because each one thought, or at least hoped, that the other leader would go. It so happened that Group X got what its members considered the worst part of the forest, though the leaders maintain that their absence had nothing to do with the section allotted. Upon seeing the state of things, the leaders of Group X went to the mayor and asked that some re-distribution be made on the grounds that the forest had not been equally divided. As such re-distribution seemed out of the question, the mayor suggested: "You go ahead and cut down the wood in your section, and the priest and I will come and visit the forest and see whether people in other sections have bigger piles

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than you. If they do, we'll re-distribute then." But the mayor and the priest never made this visit with the result that the members of Group X have nothing but complaints as consolation.

The duties of the leaders are burdensome. They must decide whether the weather permits work in the forest or not; they must accept or reject some family head's proposal for substitution; they must argue with those who do not work well; they must direct the making of the piles and the equal distribution of the wood among these piles; furthermore, they must keep a record of those who come to work and those who do not. The only authority vested in them is the right to report to the mayor the name of any man who they think should not be given any wood for failure to do his share of the work. However, no such instance occurred this past year.

Quite often a group has a formal structure in addition to the actual structure. This formal or theoretical structure corresponds to the plan of a house; the actual structure corresponding to the shape, relationship of the parts, etc., which may be quite different from the original plan in even so definite a field as architecture.

The woodcutting or wood-gathering Group X has two leaders appointed by the *Obshtina,* under whom the family heads are supposed to work. This is the plan, but we notice that there are variations since many family heads send substitutes. Our first problem is to see whether the appointed leaders are the actual leaders: that is, to see if the plan of the group corresponds with the structure as we discover it.

In order to accomplish this I followed Moreno's method as explained in his book, *Who Shall Survive?* namely, to ask each member of the group which five men he preferred and which five he would eliminate if he were choosing a group of his own with direct reference to one activity—the gathering of wood, and with no interest at all in the question of the friendship involved.

Each of the family heads on the *Obshtina* list furnished us with the information desired. Where some family heads had sent substitutes, we interviewed the substitutes instead. A few people, neither full-time substitutes nor family heads, who worked in the forest from time to time in the place of someone who stayed away were interviewed if they were mentioned twice by others. The only exceptions were numbers 19 and 30, both of whose fathers we interviewed. Some family heads who did not go to the forest were mentioned either as desirable or undesirable, and their names were included on the list which formed the basis for the diagrams.

There was no way of cross-checking to see whether the answers were correct; nor was there any reward to hold up to them in order to identify their emotions with their answers. In this respect, one might consider the method open to question. However, each man was told: "There will be no reward for you in answering these questions, nor will any harm come to you as a

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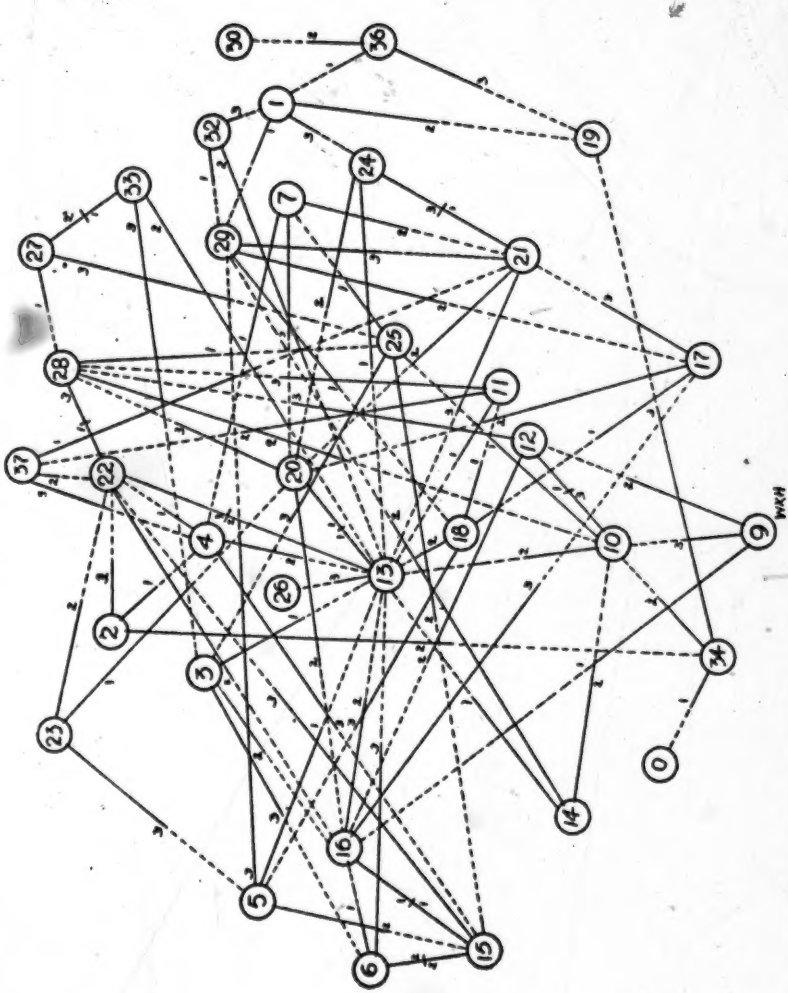

SOCIOGRAM I. Woodcutting Group, Dragalevtsy, Bulgaria—34 men, first three choices

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result. If you answer, it will be simply out of kindness and because of your desire to help me." Such an approach met with a splendid response, since practically all of the villagers knew that a "book" was being written about their village and were eager to help in its preparation. I am inclined to believe that in most cases this desire to help on the part of those interviewed has an emotional content, though it is something hard to measure or estimate.

While these interviews took place over a two-day period during the Christmas holiday recess, I visited the village several times when the wood-gathering was taking place to make family interviews and received considerable incidental material about wood-gathering which seemed to be on everybody's mind. Group X was selected by chance. Since the groups were all equal in size there was no reason to choose any one more than another for the study of the group *per se*. (See Sociogram I.)

An analysis of Sociogram I, which is based on the first three choices of each man, shows us how weak is the leadership of the two men appointed by the *Obshtina*—namely, numbers 4 and 7. At no time do they come out as important leaders but this may be due to conflict situations which arose between them and group members during the course of the wood-gathering. The predominant choice is 13, a hard-working retired railroad man, who is close-mouthed and has the reputation of "minding his own business." He was mentioned 15 times: 6 firsts, 6 seconds, and 3 thirds. This sociogram shows that when the mayor appointed the leaders he did not consider the same qualities which the peasants themselves thought essential. He appointed men who had been former political figures on the assumption that they could also lead capably in the task of woodcutting.

The other leader individuals besides 13 are 10, 15, 16, 20, 21, 22, 28. An interesting concentration of leadership is shown by the reciprocal bonds existing between some of these eight leader individuals: namely, 15-16, 13-20, 13-22, 22-28. (Notice again the strong position of 13.) The leaders also have the following reciprocal bonds with non-leader individuals: 10-12, 15-6, 21-24. That is to say, every leader individual has at least one reciprocal bond, while three of them have two reciprocal bonds—the majority of these being with other leader individuals. *Furthermore, there is only one other reciprocal bond in the whole group in which a leader does not figure*—namely, 27-33.

Perhaps the quadrilateral 13-20-28-22-13 sums up the concentration of leadership best of all. The only gap is the failure of 28 to reciprocate the choice of 20. But both 28 and 20 are joined by reciprocal bonds to 22 and 13 respectively, who in turn are connected reciprocally. This, it seems to me, demonstrates the value of a sociogram in an analysis of group leadership, for in no other satisfactory way could this quadrilateral be illustrated and its implications manifested.

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WORK-SHEET FOR SOCIOGRAM I

Individual Number	Chose	First	Second	Third
1	–	29	19	24
2	–	4	34	22
3	–	13	16	6
4	–	22	13	15
5	–	13	15	29
6	–	16	15	13
7	–	4	21	20
8	Did not go.	Sent Number 4 instead		
9	–	16	12	10
10	–	25	13	12
11	–	12	37	28
12	–	10	28	16
13	–	20	22	26
14	–	13	10	29
15	–	16	6	22
16	–	15	13	17
17	–	18	20	21
18	–	11	13	5
19	Did not go.			
20	–	13	16	28
21	–	24	20	13
22	–	28	16	13
23	–	29	22	5
24	–	13	20	21
25	–	7	15	3
26	Did not go.	His brother, 33, went instead		
27	–	28	33	25
28	–	25	10	22
29	–	18	17	21
30 and 31	Did not go.			
32	–	29	13	1
33	–	27	13	3
34	–	outsider	10	19
35	Did not go.	No. 3 went for him		
36	–	1	30	19
37	–	21	22	4

FORESTRY

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Bulgarian foresters are unanimous to deplore the unbusinesslike manner in which the magnificent forest domains of the country have been treated as well as in the irrational way they have so far been exploited. The lack of interest shown in this branch of national wealth may be gauged from the fact that though a quarter of the country's surface was covered with forests, yet until 1930 almost the totality of the lumber needed for building purposes was imported from abroad and it was only by imposing a very heavy duty on foreign timber that imports from abroad were reduced by 4/5 in 1931 and an impetus given to local lumber industries. According to the official statistics the total area covered by forests amounted to 2,698,000 hectares in 1933, of which 321,000 hectares were coniferous and 2,297,000 hectares deciduous, (mainly oak and beech) while ownership was apportioned as follows:

State	644,000 hectares
Monasteries	42,000 "
Municipalities	1,484,000 "
Private	528,000 "

The principal varieties of trees found in Bulgaria are — The oak, ash, elm. Extensive forest of resinous trees are to be found also in the Rhodopes, Pirrin and the Rila mountains and they are mostly composed of the varieties: Pinus sylvestris, pinus Austriacus, picea fectinata and picea excelsa.

According to M. D. Vessov's book on Bulgarian forestry, the State and municipal forests represent a capital of 20,000 million leva. About 20% of the total area of the country is covered with forests, this sylvan area being mostly mountainous and not fit for any other cultivation. If the forest were rationally exploited a yield of

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137 six million cubic metres of rough wood per annum could be secured, and as the average price it fetched was 500 leva per cubic metre for conifers, 200 leva for beech or oak, and 50 leva for brushwood and loppings, a minimum yearly revenue of one milliard leva could easily be reckoned upon, though eventually as much as six milliards annually might be secured, a sum which seems somewhat exaggerated, since official statistics show that the State receives less than a hundred million and the municipalities 150 million leva annually from their forests. There is therefore a tremendous amount of lee-way to be made up. For the year 1931 it was reported that the State forests supplied 571,000 cubic metres of wood and that their upkeep costs about 60 million leva. The main cause of neglect was the absence of transport facilities and lack of capital. The primitive saw-mills in work were too wasteful, from one cubic metre of wood only 50 % was turned out as lumber, while with modern machinery the wastage would not surpass 30 %, besides the planks sawn were of uneven thickness and did not compare favourably with those imported from abroad. M. Vessov finds that so far the concessions given to small traders for exploiting the forests have proved ruinous, as the concessionaires cut down the trees without discrimination. They usually had also to contend with the hostility of the local population and failed owing to their inability to secure enough labour. An attempt was made to create co-operative societies among the inhabitants of forest districts, but owing to their lack of means and the unsympathetic attitude of the official foresters, they do not seem to have been very successful. They generally launch into undertakings altogether beyond their resources, attempt extensive clearings, and then being unable to transport the felled wood, leave a large percentage of it to rot. The main reason for their creation was to satisfy the cravings of certain political par-

tisans and hangers-on and as a consequence these societies have not manifested any co-operative spirit so far. The State has derived no profit from them and they have been combatted alike by capitalists and the forestry personnel. According to the official statistics there were in 1932, 102 such co-operative societies engaged in forest exploitation, their roll of membership was 8,492, their capital 15,805,640, funds 8,202.908, deposits 5,929,955, capital invested in sawmills 15,787,715. They owed 10,736,478 to the Agricultural Bank and 14,981,228 to private traders. According to a recent decision of the government, the State will assume the exploitation of the forests for its own account, in view of the unsatisfactory results obtained so far.

According to this author, the best form of exploiting the forests has been that of granting large concessions to societies possessing adequate capital, and as an example the exploitation of the Rila forests was cited which has proved exemplary. Another successful enterprise organised by the State with the help of the compulsery Labour Corps was that of the Titsa domain, south of Varna, in which the State had invested some 29 million leva. M. Vessov considered that it was indispensable to increase the means of transport in order to develop the timber industry and permit it to compete with foreign imported timber. He recommended that cattle should be rigorously prevented from grazing in the forests, a desideratum which unfortunately cannot be fulfilled because the population of the mountainous districts has no other grazing lands; his suggestion, however, of curtailing surreptitious felling of trees, by rendering compulsory the sawing of all wood in controlled modern saw mills built outside the forest areas, seems a judicious one and worth considering, owing to the vast amount of contraband which takes place.

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An interesting paper was read by M. Taslakov in February 1933 at a meeting of the Society of Bulgarian Economists, from which the following data are worth quoting: 35% of the timberlands consisted of heavy forests and 65% of scrub forests. From the former an annual yield of 1,008,000 cubic metres of prepared timber for building purposes could be secured, the price of which was 2000 leva per c. m. or some 907,200,000 leva, while the output from the latter would amount to 2,600,000 c. m. fit only for fuel and priced at 125 leva and would attain 325,000,000 leva. The revenue from forests would therefore reach 1,232,200,000 leva per annum,

The forests contained 50% oak, 25% beech, and 25% various conifers. The annual arboreal growth per hectare of beech was 3·6 c. m., of oak 2·8 c. m. and of the conifers 6·2 to 6·6 c. m. The total arboreal growth available for felling would be estimated at 10,294,380 c. m., half of which would cover the local requirements and the balance would be available for export.

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There is another highly interesting book on Bulgarian sylviculture by M. Ch. Gruev, who was a forester and consequently fully qualified to write on the subject. His exposures of the abuses committed by successive Governments in the administration of forests, constitute a most damning indictment of the pseudo-democratic form of government so far extant and show to what extent politicians are responsible for the annihilation of the forests and how they contributed in demoralising the people by their cynical disregard of the law. The only conscientious Minister in the charge of the forest domains were D. Christov, who was a member of the Gueshov Cabinet during 1911—1912 and the Agrarian leader Draghiev. He speaks highly also of Stambulov who passed excellent measures to preserve the forests, but unfortunately under his successor, Stoilov, everything was undone. He nar-

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rates at length how the late Minister Ghenadiev ordered the forest guards to inform the population of the Batak region that whoever voted for his brother would be alloted several cubic metres of timber free of charge. The same Ghenadiev repaid his electors at Stanimaka by making them a present of the Tsepelare forests belonging to the State and worth many hundred millions. In order to secure his return at the elections of 1903 he allowed his intended electors to fell undiscriminately as many trees as they wished within his constituency and in order that they might not be prevented by the forest guards, who would have demurred at this patent violation of the forest regulations, he summoned temporarily most of them to Sofia pending the elections. Whenever a forester manifested some initiative and prevented adherents of the party in power from cutting down trees, he would at once be removed from his post. (p. 137-144).

M. Liaptchev who succeeded Ghenadiev, is as violently taken to task. He is accused of preventing foresters accomplishing their duty and ordering them to let the people dispose freely of the forests until the elections were over in order to secure their votes for the Government. As a result entire forests were ruthlessly cut down, in the region of Varna, and these disafforested tracts are now known locally as Liaptchev's fields. (p. 172—3). He adds :

"But the most anarchic Government Bulgaria had seen was that of the Agrarians, it was characterised by the greatest corruption bribery became a system". (p. 267).

M. Gruev reveals astounding facts about the Agrarian Minister Obov, who completely demoralised the forestry personnel by acceding to all the solicitations of provincial deputies. All conscientious functionaries in the administration were dismissed or threatened with dismissal and ordered to shut their eyes to the abuses committed by Government supporters. Obov was perpetually pestered

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by feminine petitioners for grants of forest clearances. Some 4000 hectares of forests on the Danube islands were handed over to villagers in order to win their votes. 90 pseudo-co-operative societies were created to exploit the forests but they disappeared as if by a miracle as soon as the Agrarian regime fell on June 9, 1923. The Agrarians in short, had proved the greatest enemies of the forests. (p. 297– 8). Unfortunately Minister I. Mollov, who took over this department after 1923 did not put a stop to the abuses, he dismissed the competent staff and nominated in its stead relatives and friends. (p. 326).

The above charges against the Agrarian regime are more than justified. A perusal of the minutes of the Sobranye reveal that several deputies impugned the Agrarians with extensive misuse of the authority they wielded when in office. Thus in the sitting of February 4 and 10, 1925, deputies related how in 1922 in order to win over 250 voters the Ministry had permitted them to cut down 6500 cubic metres of lumber, but not satisfied with this, these prospective supporters of the Government having a higher estimate of their value, proceeded to cut down 14000 cubic metres, and when the forester in charge protested, the local grandee had him arrested. The Agrarian Minister prior to the elections had openly incited the people to plunder they forests b asking „Who is the forester who dare prevent you from exploiting the forests which are yours"? Minister OBov had made a present of 46,000 hectares of forests, valued at 158 million leva to villages near Svistov and some 3800 hectares worth 175 millions to three other villages in order to secure their votes. Omartsevski who replaced Obov for a short time, disposed of some 120 hectares from the Ivanova forest in the same manner. On August 5, 1926 deputy Ts. Bratanov gave a further list of illicit felling of forests by the Agrarians whom he accused of destroying even part

of the pine forest in the vicinity of Sofia with the intent of grabbing the timber. 313 661

With the re-apparition of the Agrarians in the Government presided over by M. Muchanov, the same methods were noticeable. Thus the „*Burgaska Poshta*" of March 11 and 18, 1934 refers to extensive illicit felling of forests in the region of Aitos, the Plovdiv „*Borba*" in April of the same year complains that the then Minister of Agriculture proceeded within 7 or 8 months to replace all the forest guards with his own partisans etc.

The aftermath of the devastation of the forests was a great deterioration of the climate as a result of erosion and denudation. The Journal of the Society of Bulgarian Economists for September 1933 published an article by M. Ts. Doutsev, giving certain illuminating figures. The forest belt which in 1,900 covered 32 % of the country, had diminished to 27 % in 1912 and to 19 % in 1926. Observations gathered from 67 meteorologigal stations reported that while the annual rainfall averaged 820 litres in 1900, it had decreased to 690 in 1919 and to 490 in 1921. The more impressive figures were those of the stations at Yambol and Nova Zagora which had recorded in 1900 and 1921, of 818 and 364 respectively for the first, and of 825 and 530 litres for the second. The Maritsa basin recorded a rainfall of only 500 litres per sq. metre and this was the cause of the recent poor harvests.[1] An affluent of the river Maritsa, the Topolnitsa, which had a flow of 700 to 800 litres per second, now had only 250 to 300, and this falling off could be traced to the destruction of the forests in its catchment area. M. Doutsev demanded that the Sylvan administration should be freed from political in-

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[1] M. D. Christov, a former Minister of Agriculture, declared in the Sobranye on December 11, 1928 that the rainfall in North Bulgaria averaged 600 to 650 litres per sq. metre, while in the Plovdiv district it was only 500 litres.

313 fluences in order that the forests might be efficiently protected and he advocated the militarisation of the foresters as the best way of achieving this aim. The grazing of [137] cattle in the great timber forests accounted for their gradual deterioration and transformation into stunted brushwood. This was due to the shortage of pasture land, of which there was only enough for feeding four million head of cattle, while the number of cattle in Bulgaria was fourteen million. The requirements of this head of cattle is about five million kilogrammes of fodder, 4/5 of which is supplied from the forests, the foliage of the trees being used as such. Goats did the greatest harm, there were 250 of them per thousand inhabitants in Bulgaria, 750 in Greece, 150 in Serbia and 25 in Rummania. By these ratios one could also gauge the relative condition of the forests in these countries.

1-2 731 The gradual decrease in local precipitation which is of such importance to the cultivator, as well as the resulting inundations, with the appaling destruction they cause in the fertile valleys, all of which may be traced to the unchecked felling of the forests has begun to make itself felt. We thus find deputy N. Terkalanov declaring in the Sobranye on December 11, 1928, that the yearly loss from drought could be reckoned as amounting to a reduction of the crops by 180,000 tons of cereals, 20,000 tons of industrial cultures, 10,000 of vegetables and 100,000 tons of fodder, of a value of two milliard leva. The loss caused by drought during 1934 was estimated at five milliard leva, though the harvest was an average one. Big losses were also incurred through inundations, the river Kamtsia alone caused damage amounting to 3·5 millions annually.

313 134 Travellers in the Balkan regions cannot help noticing how vast expances of once fertile land are getting buried deep beneath tons of rubble and sand, sent down by

•313 134 mountain torrents, this being plainly attributable to the extensive disafforestation of the mountain ridges of this chain. The gorge of the river Isker, which might rival in scenery certain parts of Switzerland, has been largely denuded, with the consequence that extensive damage is being done yearly to the road and railway running through it by floods. The trains are often held up for hours by the boulders and debris washed down. It would be well if the slopes of the denuded mountains were afforestated anew with conifers which the herds of grazing animals would not attack, for in spite of regulations, the peasantry possessing cattle far in excess of the grazing capacity of the region will persist on sending them to graze in the forests. The afforestation of the Isker gorge would be well worth undertaking in view of the thousands of tourists who visit it every holiday during summer, special excursion trains being run from Sofia, providing as it does most charming outings for excursions and walks.

Investigations into the not very remote past history of Bulgaria, establish that the devastation of forests are comparatively of recent date. The French traveller Ami Boué records in 1854 that the Vitosh mountain overhanging Sofia was covered with thick forests; these have been cut down and it only sustains a meagre growth of shrubs, though steps are being taken to afforestate it anew. According to M. A. Ihtchiev, Turkish judges mention in their notes that the highway from Slivnitsa to Sofia ran through alleys, and big trees, and that rice and the vine were cultivated in the region at the time, This is no longer possible now owing to a change in the climate since then, and as for the big trees, not a vestige of them has been left. The region of Pleven was at the time of the Russo-Turkish war fairly thickly wooded, but now it is practically denuded.

BULGARIA PAST & PRESENT

• 313 In view of the construction of an excellent road from Kritsim to Duvlen along the banks of the river Vutsa, the forest administration would do well to keep an open eye on the way the forests in that region are being exploited, for if they are heedlessly cut down as has happened in the Tsepelare district, a few miles to the east, following on the exploit of the late M. Ghenadiev reported above, the Vutsa river will dry up almost to the extent the Tsepelare has done, and all the millions spent on the hydro-electrical plant by the Vutsa co-operative society will have been in vain.

It would seem that the rational exploitation of the Bulgarian forests would prove a lucrative operation, large masses of lopping and inferior wood would be converted into charcoal for which there is a large market in Constantinople, Greece, Egypt and Italy. An important firm possessing adequate means with which to provide for the building of roads and railways through the forest regions, which would also assume the task of afforestation conjointly with the Government, would probably realise a fair return. Under the present circumstances the Bulgarian Government would probably be disposed to grant such a concession, as it can hardly sclicit a loan for the development and exploitation of its forests, since it will be unable to pay interest on it in foreign currency, and there is little chance of financiers considering a financial operation based on the principle of repayment in kind, which is the only method by which Bulgaria can for the present, at least, discharge her obligations. The new Government has made it known that it will re-afforestate at the earliest some 300,000 hectares and will replant another 32,000 hectares of forests which have been destroyed by fire. It seemed firmly decided to put a stop to the abuses which have hitherto prevailed.

Bulgaria EE1
Slavic Peoples E16

clearly show its origin from the Italian Renaissance» (!) (see fig. 42, Plate XIII 8). B 342 [351]

In this category of houses of the plains can also be included the troglodyte house, which is seen even to-day in some villages of Nothern Bulgaria. But it forms a separate sort of building as to disposition, construction and arrangement, and it will be mentioned separately at the end of the present survey.

2. The Bulgarian House of the Mountains.

The houses of the mountainous areas of Bulgaria show a much greater variety of shapes: they are two-storied and, from an architectural point of view, more advanced, than the houses of the plains. The explanation, however, given by Zlatev, that this fact is due to the higher income of the population who live in mountainous areas and become rich through cattle-breeding, can only be accepted if we consider the fact that in the plains of Bulgaria, as well as in those of Greece, there have been big farms belonging to Turks during their occupation, and the farmers were living there as serfs.

The older of the still existing houses of the mountainous areas of Bulgaria are from the middle or the beginning of last century. If we exclude the houses of the Rodope and the Orvelo areas, that present some peculiarities, the characteristic mark of the highland Bulgarian house is the open portico, which covers all the length of one of the sides of the upper floor, usually the side overlooking the yard. The building has normally no windows opening to the street. This portico also includes the staircase leading from the ground floor to the upper floor. Thus the staircase is almost external, but under the roof of the house (Plates XIV and XV).

The upper storey usually projects over the external wall of the ground floor, along the whole or part of the frontage of the house. This is achieved by the very wide use of timber, both in construction and decoration. The kind of timber used is oak, in the forest districts of Haimos (Balkan) and Sredna Gora, and pine-trees as well as other conifers in the districts of Rodope and Orvelo (Pirin). It would appear that for the abundance of timber, the whole of the highland house was originally made out of wood (1). B [313]

1) According to **Niederle**, op. cit. p. 119, «the wood construction is the original form of house building for the Slavs, both in their villages and their SL 342

[Text continues on p. 69]

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